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* Examiner Initials*	Cite No.1	Foreign Patent Document  Country Code <sup>3</sup> – Number <sup>4</sup> – Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YY	Name of Patentee or Application of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T⁵			
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<sup>&</sup>lt;sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Application Number	09/910,345
Filing Date	July 20, 2001
First Named Inventor	H. Michael Shepard, et al.
Art Unit	1671-1645- 8
Examiner Name	SMILL Not Yet Assigned
Attorney Docket Number	NB 2017.00

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS						
Examiner	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal,						
Initials*	No.1	serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher city and/or country where published						
1		AMYES, S.G. et al. (1992) "Classification of plasmid-encoded dihydrofolate reductases conferring trimethoprim						
CS	}	resistance." J. Med. Microbiol. 36:1-3.						
1	2	ARTHUR, Michel, et al. (August 1999) "Moderate-Level Resistance to Glycopeptide LY333328 Mediated by Genes						
	1	of the vanA and vanB Clusters in Enterococci" Antimicrobial Agents and Chemotherapy 43(8):1875-1880.						
	3	AULABAUGH, Ann, et al. (1990) "Oxalyl Hydroxamates as Reaction-Intermediate Analogues for Ketol-Acid						
	{	Reductoisomerase." Biochemistry 29(11):2824-2830.						
	4	BERGER-BÄCHI, Brigitte, et al. (1989) "FemA, a host-mediated factor essential for methicillin resistance in						
		Staphylococcus aureus: Molecular cloning and characterization" Mol. Gen. Genet. 219:263-269.						
	5	BLIGHT, Keril J., et al. (1998) "Molecular virology of hepatitis C virus: an update with respect to potential antiviral						
	<u> </u>	targets" Antivir. Ther. 3(Suppl 3):71-81.						
	6	BLOOMER, James L., et al. (1976) "Microbial Metabolites. Part XI. Total Synthesis and Absolute Configuration of						
	}	(S)-Carlosic Acid (4-Butyryl-2,5-dihydro-3-hydroxy-5-oxo-furan-2-acetic Acid) and Conversion of (R)-5-Methyltetronic						
	ĺ	Acid into (R)-Carolic Acid {3,4-Dihydro-8-methylfuro[3,4-b]oxepin-5,6(2H,8H)-di-one}" J. Chem. Soc., Perkin Trans. I						
		14:1485-1491.						
	7	BOHACEK, Regine S, et al. (1997) "Modern computational chemistry and drug discovery: structure generating						
<u> </u>	<u> </u>	programs" Curr, Opin. Chem. Biol. 1:157-61.						
	8	BONOMO, Robert A., et al. (May 15, 1999) "Inhibitor Resistant Class A Beta-Lactamases" Front Biosci. 4:34-41.						
	9	CACERES, Nancy E., et al. (August 1997) "Overexpression of the D-Alanine Racemase Gene Confers Resistance						
	ļ	to D-Cycloserine in Mycobacterium smegmatis." J. Bacteriol. 179(16):5046-5055.						
	10	CARLSEN, Per H.J., et al. (1981) "A Greatly Improved Procedure for Ruthenium Tetraoxide Catalyzed Oxidations of						
		Organic Compounds." J. Org. Chem. 46:3936-3938.	_					
	11	CASADEWALL, Barbara, et al. (June 1999) "Characterization of the vanD Glycopeptide Resistance Gene Cluster						
		from Enterococcus faecium BM4339." J. Bacteriol. 181(12):3644-3648.						
	12	CASADO, Jose L., et al. (2000) "Non-nucleoside reverse transcriptase inhibitor resistance among patients falling a						
<del>-</del>	10	nevirapine plus protease inhibitor-containing regimen" AIDS 14(2):F1-F7.  CHANG, Alan K., et al. (1998) "Herbicide-resistant forms of Arabidopsis thaliana acetohydroxyacid synthase:	_					
	13	chang, Alan K., et al. (1996) Herbidderesistant forms of Alabhdopsis trialiana accomplicacy and symmetric characterization of the catalytic properties and sensitivity to inhibitors of four defined mutants" Biochem. J. 333:						
	1	765-777.						
<del>                                     </del>	14	CHIPMAN, David, et al. (1998) "Biosynthesis of 2-aceto-2-hydroxy acids: acetolactate synthases and	_					
	'*	acetohydroxyacid synthases" Biochim. Biophys. Acta 1385:401-419.						
<del>                                     </del>	15	COHEN, Noal, et al. (1983) "Enantiospecific Syntheses of Leukotrienes C <sub>4</sub> D <sub>4</sub> and E <sub>4</sub> and [14, 15- <sup>3</sup> H <sub>2</sub> ] Leukotriene						
		E <sub>4</sub> Dimethyl Ester." J. Am. Chem. Soc. 105:3661-3672.						
-	16	DEGRAW, Joseph I., et al. (January-February 1986) "Synthesis of 5,10-Dideazaminopterin." J. Heterocyclic Chem.						
	-	23:1-4.						
	17	DÖTZ, K.H. (1999) "Reactions of complex ligands 85: chiral quinoid and hydroquinoid [2.2]metacyclophanes via						
	1	chromium-mediated intramolecular benzannulation." J. Organomet Chem. 578:223-228.	_					
	18	EKINS, Sean, et al. (1999) "Three and four dimensional-quantitative structure activity relationship (3D/4D-QSAR)						
	L	analyses of CYP2D6 inhibitors." Pharmacogenetics 9:477-489.						
	19	EKINS, Sean, et al. (1999) "Three-Dimensional-Quantitative Structure Activity Relationship Analysis of Cytochrome						
		P-450 3A4 Substrates." J. Pharmacol. Exp. Ther. 291(1):424-433.	_					
V	20	EVANS, M. E., et al. (1667) "Acetal Exchange Reaction" Carbohydrate Res. 3:453-462.						

3

			OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
E	xaminer	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal,	_
اسمل	ntials*/	No.1	serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher city and/or country where published	<u> </u>
	10	1/2	serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher city and/or country where published  FREER, Andrew A., et al. (1996) "Synthesis and absolute configurations of the naturally occurring 3- and 4- methylmuconolactones: X-ray structures of (S)-1-phenylethylammonium salts and an 8-bromo-1-methyl-	0
AR	ر ج		methylmuconolactones: X-ray structures of (S)-1-phenylethylammonium salts and an 8-bromo-1-methyl-	٠
1	1 9 200	ည်	I muconodilactone" J. Chern. Soc. Perkin Trans. 1 17:2111-2116.	<del>-</del>
4	1 4	621	GYPSER, Andreas, et al. (1997) "D-Erythronolacetone as a C4 building unit, Part 2. A short and efficient symmetries	3
8400	MARK OF	C.	of both enantiomers of eip-muricatacin, a diastereoisomer of the native acetogenin from Annona muricata." 👼 🧗	۵
	MAHKU	Ĭ	Chem. Soc. Perkin Trans. 1, p.1013-1016	
		23	GYPSER, Andreas, et al. (1994) "D-Erythronolactone and 2,3-O-Isopropylidene-L-erythrose as C <sub>4</sub> Building Units:	•
}	i	ł	An Efficient Synthesis of both Enantiomers of endo-Brevicomin and its 7-Vinyl Analogues" Liebigs. Ann. Chem.,	
			775-780.	
		24	HALGAND, Frédéric, et al. (1999) "Characterization of the Conformational Changes of Acetohydroxy Acid	
		}	Isomeroreductase Induced by the Binding of Mg <sup>2+</sup> Ions, NADPH, and a Competitive Inhibitor <sup>†*</sup> Biochemistry	
		<u> </u>	38:6025-6034.	
1 1		25	HANAKI, H., et al. (1998) "Activated cell-wall synthesis is associated with vancomycin resistance in methicillin-	
H			resistant Stephylococcus aureus clinical strains Mu3 and Mu50" J. Antimicrob. Chemother. 42(2):199-209.	
11		26	HANESSIAN, Stephen, et al. (1983) "Total synthesis of the C-3 - C-17 segment of boromycin" Can. J. Chem.	
1			61:634-637.	
		27	HARMS, Christian T., et al. (1992) "Herbicide resistance due to amplification of a mutant acetohydroxyacid	
1			synthase gene." Mol. Gen. Genet. 233:427-435.  HiLL, Craig M., et al. (1997) "Purification of Escherichia coli acetohydroxyacid synthase isoenzyme II and	
11		28	reconstitution of active enzyme from its individual pure subunits* Biochem. J. 327:891-898.	
H	<del></del>	<del></del>	IBDAH, Muhammad, et al. (1996) "Homology Modeling of the Structure of Bacterial Acetohydroxy Acid Synthase	
11		29	and Examination of the Active Site by Site-Directed Mutagenesis" <i>Biochemistry</i> 35:16282-16291.	
-		70	KIRKPATRICK, Lynn D., et al. (1999) "Structure-Based Drug Design: Combinatorial Chemistry and Molecular	
		30	Modeling" Comb. Chem. High Throughout Screen 2:211-221.	
1		31	KLEANTHOUS, Colin, et al. (1985) "3-(Bromoacetyl)chloramphenicol, an Active Site Directed Inhibitor for	
$\Pi$		31	Chloramphenicol Acetyltransferase" Biochemistry 24:5307-5313.	
1		32	LACKEY, David B., et al. (2001) "Enzyme-catalyzed therapeutic agent (ECTA) design: activation of the antitumor	
}		52	ECTA compound NB1011 by thymidylate synthase" Biochem. Pharmacol. 61:179-189.	
H		33	LESSARD, Ivan A. D., et al. (1999) "Determinants for Differential Effects on D-Ala-D-Lactate vs D-Ala-D-Ala	
11			Formation by the VanA Ligase from Vancomycin-Resistant Enterococci" Biochemistry 38:14006-14022.	
H		34	LEWBART, Marvin L., et al. (November 1969) "Preparation and Properties of Steroidal 17,20- and 20,21-	
1		Į	Acetonides Epimeric at C-20. I. Derivatives of 5 <sup>®</sup> -Pregnan-3 <sup>∞</sup> -0i <sup>®</sup> 34(11):3505-3512.	
		35	LIPSHUTZ, Bruce H., et al. (1988) "Acyclic Control of Stereochemistry via a Reiterative (E or Z)-1-Propenyllithium-	
			Derived Cuprate Opening of a Chiral Epoxide/Reepoxidation Sequence" J. Org. Chem. 53:4495-4499.	
		36	MALIK, Arshad, et al. (May 2, 2000) "Chronic Hepatitis B Virus Infection: Treatment Strategies for the Next	
			Millennium" Ann. Intern. Med. 132(9):723-731.	
		37	MCGOWAN, Donald A., et al. (1982) "Total Synthesis of Racemic Chorismic Acid" J. Am. Chem. Soc. 104:1153-	
		ļ	1154.	
{		38	MCGOWAN, Donald A., et al. (1982) "Total Synthesis of Racemic Chorismic Acid and (-)-5-Enolpyruvylshikimic	
		ļ	Acid ("Compound Z <sub>1</sub> ")" J. Am. Chem. Soc. 104:7036-7041.	
}		39	MCKAGUE, A. Bruce (1999) "Synthesis of Muconic Acids By Peracetic Acid Oxidation of Catechols." Synth.	
	<del> </del>		Commun. 29(9):1463-1475.	
		40	MDLULI, Khisimuzi, et al. (1998) "Mechanisms involved in the Intrinsic isoniazid resistance of Mycobacterium	
-	+	<del></del>	avium." Molecular Microbiology 27(6):1223-1233.	
	<del> </del>	41	MIESEL, Lynn, et al. (1998) "Mechanisms for isoniazid action and resistance" Novartis Found. Symp. 217:209-220.	
1		42	PANG, Siew Siew, et al. (1999) "Expression, Purification, Characterization, and Reconstitution of the Large and	
-	<del> </del>	45	Small Subunits of Yeast Acetohydroxyacid Synthase" Biochemistry 38:5222-5231.	
-	+	43	PATRICK, Timothy B., et al. (1994) "New Fluorobutenolide Templates for Synthesis" J. Org. Chem. 59:1210-1212.	
	1	44	PIRRUNG, Michael C., et al. (1991) "Mechanism and Stereochemistry of α,β-Dihydroxyacid Dehydratase" J. Am.	
-	+-	A.E	Chem. Soc. 113:1020-1025.  POULSEN, Charlotte, et al. (1989) "Purification and properties of Saccharomyces cerevisiae acetolactate synthase	
		45	from recombinant Escherichia coli* Eur. J. Biochem. 185:433-439.	
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4065 146				ms of pyrazinamide resistance in mycob ctivity" <i>Microbiology</i> 145:1359-1367.	acteria: importance of lack of	1660/2900
3 200 Gr	READ, Timothy D	., et al. (Sept	ember 2001) "F	inding drug targets in microbial genomes	s." DDT 6(17):887-892.	100
TADE MARK OF STAR	SHAW, Karen J. e and II" J. Bacterio			lla typhimurium Mutants Defective in Acc	etohydroxy Acid Synthases I	S
49	substrates" Bioch	em. Soc. Tra	ans. 16:939-942			
50	SHAW, W., et al.	(1991) "Chic	oramephenicol A	cetyltransferase" Annu. Rev. Biophys. I	Biophys. Chem. 20:363-86.	<del> </del>
51	STASCHKE, Kirk Neu5Ac2en." Viro			Basis for the Resistance of Influenza Viru	ises to 4-Guanidino-	
52	SVENDSEN, Axel	, et al. (1975	) "Naturally Occ	urring Lactones and Lactams. VIII. Lact Inosic Acid, and Viridicatic Acid" J. Org.		
53	TAKABATAKE, To	ohru, et al. (1	992) "Bacterios	tatic Effect of 4,7-Dicyanobenzofurazan m. Bull. 40(6):1644-1646.		
54	TETTELIN, Hervé pneumoniae" Scie	et al. (July 2 nce <b>293</b> :498	0, 2001) "Comp -506.	lete Genome Sequence of a Virulent Iso		
55	Derivatives" J. Me	d. Chem. 29	:1389-1393.	s and Antiviral Activity of Certain Nucleon		
56				Catalytic OsO <sub>4</sub> Oxidation of Olefins to gedron Letters 23:1973-1976.	CIS-1, 2-Glycols Using	
57	VARGHESE, Jose	eph N, et al. (	(1998) "Drug de	sign against a shifting target: a structura inidase" Structure 6(6):735-746.	l basis for resistance to	
58	VENTURI, Guiliett	a, et al. (200	0) "Antiretrovira	l Resistance Mutations in Human Immur red Cerebrospinal Fluid and Plasma San	nodeficiency Virus Type 1 nples" <i>J. Infect. Dis.</i> 181:740-	
59				"Inability of Muconate Cycloisomerases e" J. Bacteriol. 176(14):4366-4375.	to Cause Dehalogenation	
60	VOLLMER, Martin Chloro- and 5-Chlo 177(10):2938-294	Dominik, et promuconola 1.	al. (May 1995) ctone by Chloro	"Conversion of 2-Chloro-cis,cis-Mucona muconate Cycloisomerases of pJP4 and	1 pAC27" J. Bacteriol.	
61	VOLLMER, Martin	Dominik, et	al. (September	1998) "Substrate Specificity of and Prod	luct Formation by Muconate	ı

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Cycloisomerases: an Analysis of Wild-Type Enzymes and Engineered Variants." Appl. Environ. Microbiol.

WHITCOMB, Carl E. (1999) "An introduction to ALS-inhibiting herbicides" Toxicol. Ind. Health 15:231-239.

WEINSTOCK, Orna, et al. (September 1992) "Properties of Subcloned Subunits of Bacterial Acetohydroxy Acid

YUAN, Ying, et al. (July 1995) "Identification of a gene involved in the biosynthesis of cyclopropanated mycolic

ZHDANOV, Yu. A., et al. (August 1971) "Reformatsky Reaction in the Carbohydrate Series" Zh. Obshch. Khim

acids in Mycobacterium tuberculosis" Proc. Natl. Acad. Sci. USA. 92:6630-6634.

64(9):3290-3299.

41(8):1845-1847.

63

Synthases" J. Bacteriol. 174(17):5560-5566.

<sup>•</sup> EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 2

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1	2	WO 99/37753	07-28-99	NewBiotics, Inc.		
	3	WO 01/07087	02-01-00	NewBiotics, Inc.		
	4	WO 01/07088	02-01-01	NewBiotics, Inc.		
	5	WO 01/64687	09-07-01	NewBiotics, Inc.		
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Application Number	09/910,345		
Filing Date	July 20, 2001		
First Named Inventor	H. Michael SHEPARD		
Art Unit	1671 1645		
Examiner Name	Smith Not Yet Assigned		
Attorney Docket Number NB 2017.00			

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal,	T <sup>2</sup>
Initials*	No.1	serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher city and/or country where published	
	1	BOYER, C. et al. "NB1011, a novel drug that targets tumor cells overexpressing thymidilate synthase, induces p21,	
()		BAX and GADD45 and blocks G2/M cell cycle progression in MCF7TDX cells." 92 <sup>nd</sup> Proceedings of the American	
	ļ	Assc. for Cancer Research Annual Meeting, Annual Meeting of the American Assn. for Cancer Research (March	
		2001) 42:507-508	
	2	LI, Q. et al. "A novel approach to thymidylate synthase as a target for cancer chemotherapy" Mol. Pharm. (2001) 59(3):446-452,	
<u> </u>	3	SMYTH, T.P. et al. "S-aminosulfeniminopenicillins: Multimode. β-lactamase inhibitors and template structure for penicillin-based β-lactamase substrates as prodrugs" J. Org. Chem. (1998) 63(22):7600-7618.	
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Sheet 1

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Application Number	09/910,345			
Filing Date	July 20, 2001			
First Named Inventor	H.Michael SHEPARD			
Art Unit	1631 1645			
Examiner Name	Smith Not Yet Assigned			
Attorney Docket Number NB 2017.00				

		· U.S.	PATENT DO	CUMENTS	
Examiner	Examiner Cite Document Number		Publication Date	Name of Patentee or	Pages, Columns, Lines,
Initials*	No.1	Number – Kind Code <sup>2</sup> (if known)	MM-DD-YY	Application of Cited Document	Where Relevant Passages or Relevant Figures Appear
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کے	1	WO 01/07454	02-01-01	NewBiotics, Inc.		

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